APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,367	06/09/2006	Kazuya Suzuki	Q95188	1657

23373   7590   02/12/2009
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EXAMINER
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ART UNIT	PAPER NUMBER
2416	

MAIL DATE	DELIVERY MODE
02/12/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

		Application No.	Applicant(s)
Office Action Summary		10/582,367	SUZUKI ET AL.
		Examiner	Art Unit	
		Kevin Mew	2416	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 June 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-13</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,5,9 and 13</u> is/are rejected.

7)☒ Claim(s) <u>2-4,6-8 and 10-12</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>09 June 2006</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☒ All b)☐ Some * c)☐ None of:

   1.☒ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
   application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date <u>6/9/06, 10/4/06, 1/14/09</u>

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

Detailed Action

Claim Objections

1.   Claims 1-12 are objected to because of the following informalities:

In line 8, claim 1, line 7, claim 5, and line 7, claim 9, the term "characterized" should be replaced with "comprising" in order to comply with current USPTO acceptable practice.

In line 2 of each of claims 2-4, 6-8, 10-12, the term "characterized" should be replaced with "comprising" in order to comply with current USPTO acceptable practice.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2.   Claim 13 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 13 recites "a program for a route updating suppression method for a network …," which is a nonstatutory descriptive material per se. Programs/computer programs are computer listings per se, i.e., the descriptions or expressions of the programs, which are not physical things. A computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process. Thus, computer programs are neither computer components nor statutory processes, as they are not acts being performed. Such claimed computer program does not define any structural and functional interrelationships

between the computer program and other elements of a computer which permit the computer

program's functionality to be realized.

In contrast, a claimed computer-readable medium encoded with a data structure or

computer program defines structural and functional interrelationships between the computer

program and the computer software and hardware components which permit the computer

program's functionality to be realized, and is thus statutory.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claims 1, 5, 9, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over in view

of Jones (US Publication 2002/1069794) in view of Kondylis et al. (USP 6,721,290).

Regarding claims 1, 5 Jones discloses a network (communication network, paragraph

0055) including at least a router device (a router, paragraph 0024) including a plurality of

network interfaces for connection to an outside (physical interfaces, elements 18, 70, Fig. 3), and

routing processing means for performing routing processing for a packet received (a

OSPF module/request provider employing the OSPF protocol for routing IP traffic, paragraphs

0055-0056) through said network interface on the basis of route information stored in advance

(based on the routing information, paragraphs 0055-0056), characterized in that said router

device comprises virtual interfaces (request managers 20, 28, Fig. 3) which manage a change in state of a link for connection to the outside in accordance with an up state (active state) in which connection continues for not less than a predetermined time (Hello packet arrives before the expiry of timer, paragraphs 0063, 0023-0025), a down state (inactive state) in which disconnection continues for not less than a predetermined time (Hello packet is not received before the expiry of timer, paragraphs 0063, 0023-0025).

Jones may not explicitly show a hit state in which the connection and the disconnection repeat.

However, Kondylis teaches a communication node having a temporarily disconnected state TD (a hit state) where the connected state C will become temporarily disconnected state TD if data packet is not received correctly and will become connected again and switch back to connected state C when it is able to connect to another node (col. 10, lines 45-67, col. 11, lines 1-18, col. 13, lines 65-67, col. 14, lines 1-8 and Fig. 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the routing apparatus and method of Jones with the teaching of Kondylis in having a communication node having a temporarily disconnected state TD (a hit state) where the connected state C will become temporarily disconnected state TD if data packet is not received correctly and will become connected again and switch back to connected state C when it is able to connect to another node such that the routing apparatus and method of Jones will show a hit state in which the connection and the disconnection repeat.

The motivation to do so is to provide a self-healing feature which corrects for disconnections caused by node movement and nodes moving out of range of each other, while accounting for colors already assigned for data transmission in order to prevent packet collisions.

Regarding claims 9, 13, Jones discloses a route updating suppression method and program for a network (communication network, paragraph 0055) including at least a router device (a router, paragraph 0024) including a plurality of network interfaces for connection to an outside (including physical interfaces, paragraph 0036 and elements 18, 70, Fig. 3), and routing processing means for performing routing processing for a packet received (a OSPF module/request provider employing the OSPF protocol for routing IP traffic, paragraphs 0055-0056) through said network interface on the basis of route information stored in advance (based on the routing information, paragraph 0055), characterized by comprising:

the step of recognizing any one of an up state (active state) indicating a state in which connection to the outside continues for not less than a predetermined time (Hello packet arrives before the expiry of timer, paragraphs 0063, 0023-0025), a down state (inactive state) in which disconnection continues for not less than a predetermined time (Hello packet is not received before the expiry of timer, paragraphs 0063, 0023-0025), on the side of virtual interfaces (request managers 20, 28, Fig. 3) arranged between the network interfaces (physical interfaces, paragraph 0036 and elements 18, 70, Fig. 3) and the routing processing means (OSPF module/request provider) so as to respectively correspond to the plurality of network interfaces (physical interfaces 18, 70, Fig. 3); and

the step of managing a change in state of a link for connection to the outside in

accordance with a recognition result (managing a change in active and inactive states in

accordance with recognizing whether Hello packet arrives before the expiry of timer, paragraphs

0063, 0023-0025).

Jones may not explicitly show a hit state in which the connection and the disconnection

repeat.

However, Kondylis teaches a communication node having a temporarily disconnected

state TD (a hit state) where the connected state C will become temporarily disconnected state TD

if data packet is not received correctly and will become connected again and switch back to

connected state C when it is able to connect to another node (col. 10, lines 45-67, col. 11, lines 1-

18, col. 13, lines 65-67, col. 14, lines 1-8 and Fig. 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the routing apparatus and method of Jones with the teaching of

Kondylis in having a communication node having a temporarily disconnected state TD (a hit

state) where the connected state C will become temporarily disconnected state TD if data packet

is not received correctly and will become connected again and switch back to connected state C

when it is able to connect to another node such that the routing apparatus and method of Jones

will show a hit state in which the connection and the disconnection repeat.

The motivation to do so is to provide a self-healing feature which corrects for

disconnections caused by node movement and nodes moving out of range of each other, while

accounting for colors already assigned for data transmission in order to prevent packet collisions.

Allowable Subject Matter

4.   Claims 2-4, 6-8, 10-12 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 2, a network according to claim 1, characterized in that said virtual interfaces are arranged between said network interfaces and said routing processing means so as to respectively correspond to said plurality of network interfaces, and

conceal a state of said network interfaces from said routing processing means.

In claim 3, a network according to claim 1, characterized in that said virtual interfaces suppress updating of the route information when the link is in the hit state.

In claim 4, a network according to claim 1, characterized in that said virtual interfaces suppress notification of a change in state of the link to another router device when the link is in the hit state.

In claim 6, a router device according to claim 5, characterized in that said virtual interfaces are arranged between said network interfaces and said routing processing means so as to respectively correspond to said plurality of network interfaces, and conceal a state of said network interfaces from said routing processing means.

In claim 7, a router device according to claim 5, characterized in that said virtual interfaces suppress updating of the route information when the link is in the hit state.

In claim 8, a router device according to claim 5, characterized in that said virtual interfaces suppress notification of a change in state of the link to another device when the link is in the hit state.

In claim 10, a route updating suppression method according to claim 9, characterized by further comprising the step of causing the virtual interfaces to conceal a state of the network interfaces from the routing processing means.

In claim 11, a route updating suppression method according to claim 9, characterized by further comprising the step of causing the virtual interfaces to suppress updating of the route information when the link is in the hit state.

In claim 12, a route updating suppression method according to claim 9, characterized by further comprising the step of causing the virtual interfaces to suppress notification of a change in state of the link to another router device when the link is in the hit state.

Conclusion

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The

examiner can normally be reached on 9:00 am - 5:30 pm.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

        Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

                                              /Chi H Pham/
                                              Supervisory Patent Examiner, Art Unit
                                              2416
                                              2/10/09

/K. M./
Examiner, Art Unit 2416